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ABSTRACT

This paper attempts to assess the post masters training program given at Wayne State University Medical Library between 1967-1970. Probabilistic conclusions suggest certain educational activities be undertaken: (1) There is no justification to create a post masters program to teach basic library techniques and library schools must incorporate skill development within the curriculum or on-the-job training will have to be continued; (2) Two justifications for internship programs require establishment of programs either to teach students the operations of large library systems with an expectation of employment, or to teach students the application of theoretical knowledge in a working environment aimed toward a speciality; (3) Management and planning tasks for libraries cannot be adequately taught in a one-year post masters educational program; and (4) The distinctive feature of medical librarianship is its environment and the librarian must comprehend how biomedical information is generated and used, and should attend conferences and seminars to gain this knowledge. The report concludes all "experimental" education undertaken in the program, including skill development, planning, management and investigative work should rightly be started in library schools. An addendum covers proposed educational objectives of the program. (AB)

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REPORT

No. 57

An Assessment of
A Post-Masters Internship in
Biomedical Librarianship

WAYNE STATE UNIVERSITY
SCHOOL OF MEDICINE
Library and Biomedical
Information Service Center
Detroit, Michigan

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An Assessment of A Post-Masters Internship in Biomedical Librarianship

by

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A medical library may have a different set of service priorities from other libraries because the environment in which it operates forms a highly interrelated organizational structure. The health professionals function in institutional environments with many objectives. Individuals may have to change their roles several times within the same day to attain personal and institutional goals. Similarly, the institutions which form the larger medical environment and which support medical libraries have to carry out several functions simultaneously. Because of the increasing complexity of health care the formalization of inter-institutional dependence has now become the rule rather than the exception. The medical environment is an intense knowledge industry which might be grouped into four major activities.(1)

1. Fundamental research. Only a few hundred institutions within the nation carry out fundamental research in the health sciences. The funding and the relation of the application of this research make these institutional environments qualitatively separate from academic-research units in other disciplines.

2. Clinical practice. The increase in technological application has fostered a growing need for physicians (i) to cooperate with scientifically trained professionals in other fields and (ii) to delegate medical decisions to a wide range of technical assistants. This broadening of scope of responsibilities has strained our means to provide the health professionals with the information needed to make decisions and carry out diagnostic and therapeutic actions.

3. Clinical research. While it is the large medical centers which are the most active in bringing about the conceptual tools for new applications of fundamental knowledge to guide medical practice, there is a continuous demand on all health professionals to keep informed of and relate to these conceptual tools.

4. Medical education. A few paramedical programs deal only with educational activities, but all good health care institutions must support in one way or another the continued education of its professional staff.

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(1) Cf. Chesler, L.G., Hershdorfer, A.M., and Lincoln, J.L. The use of information in clinical problem solving. Mathematical Biosciences, 8:53-108, 1970.

As already pointed out, medical library service priorities may be different from other types of libraries, but the techniques and skills to provide these services are essentially the same for all libraries. What makes a medical librarian distinct, then, is his sensitivity to the environment in which his library must function. How to educate a librarian for this environment has been a subject of controversy and experimentation.(2) One of the techniques that has been tried is that of an internship.(3) The Medical Library Assistance Act of 1965 provided funds to encourage the training of medical librarians, including support for several internship programs. This paper is an attempt to assess the post masters training program given at Wayne State University Medical Library between 1967-70.

ASSESSMENT OF EDUCATIONAL PROGRAMS

The approach used here to assess the training program is that of discussing the environment in which this program was carried out, particularly the attitude changes that evolved over the three year period. The term assessment rather than evaluation is used with deliberation. The process of evaluation must have as its basis a value system against which to make measurements. Since no generally acceptable method exists for analyzing or for judging the relevance of educational experiences in general, much less for medical librarianship, one is left with a series of unresolved problems in undertaking any assessment:

(i) The task of determing and comprehending the unique vocabularies and logical structures of the content of what is to be taught is difficult;

(ii) There is no adequate framework in educational theory on which to structure an analysis;

(iii) Educational experiences contain many interrelated aspects few of which have universally accepted definitions:

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(2) For a bibliography of education of medical librarianship, see Shirley, S., Annotated bibliography of education for medical librarianship. Bulletin of the Medical Library Association 57:391-398, Oct. 1969.

(3) For a history of medical library internships, see Darling, L. Development of training programs in American medical libraries. Bulletin of the Medical Library Association 51:339-353, 1963.

(iv) The degree of confidence with which an instructor can assess the accomplishment of students varies considerably since each student is unique and cannot be placed on a linear scale;

(v) Our perceptions of libraries and librarians are undergoing change and consequently it is difficult to determine if a particular educational environment is relevant to professional development.

Although no well-defined technology or methodology has been developed to evaluate educational programs does not mean that evaluations are not made; someone, or a group, must decide whether a program should continue. The important word here is decision. How does one decide whether a program is good, or what aspects should be changed? We must deal with uncertainties. Quantum physicists were the first to view uncertainty quantitatively through the use of probability mathematics. We can deal with uncertainties in social situations as education as long as we are willing to accept responsibility for our value judgments on a personal probabilistic basis. Decisions and ordered opinion can thus be communicated with a minimum of discussion because probabilities are explained rather than absolute values.

An example from the problem of medical diagnosis can illustrate the significance of this last statement. It is no secret that two physicians evaluating the symptoms of the same patient may not agree on a diagnosis. One of the mysteries and power of the medical profession is their willingness to make decisions, that is, diagnoses, even though knowledge of the actual disease is unknown.

> Descriptions of medical decision making were largely anecdotal. Medical problem solving was originally designed to be learned by apprenticeship and long exposure. The behavior of physicians was interwoven with traditional medical concepts as part of a highly developed guild attitude.(4)

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(4) Chesler, op. cit.

Within the past 10 years a great deal of investigative work has been undertaken to analyze how clinical judgment is arrived at. Diagnosis by computer is still a long way off, but these studies have revealed that an orderly opinion about a matter can be stated and understood by another person even though he may have a different orderly opinion about the matter.(5) These opinions can be stated in numbers -- in ratios or likelihoods of occurence. Once so stated, given enough cases, probabilistic mathematics can be applied to assist in making future judgments.

The anectodal approach of assessing a specific educational program is used here because there does not appear to be any other way to arrive at an orderly opinion about these three years of effort. Further, we can hide behind an investigative methodologic cliché. In a situation which cannot be explained in precise language (as in the case of the exact sciences) the errors of assessment are part of the assessment itself. Attempts to separate precise observations from errors methodologically leads to less accurate results than we desire. The compromise, operationally, is to use a broader, less precise measure. For example, an obvious question that should be asked of an educational program such as this internship is, "How successful are the trainees in their professional work?" Or to state it in another way, "How has the year's educational experience affected their professional performance?"

First of all, success is a measurement that involves a time span. Second, what is success? Is a librarian successful when he has arrived at a point where more of his time is spent in administration than in the service operation, or when he has published a certain number of articles? More to the point is how well is a librarian able to fulfill the objectives of his institution? There are only three sources of information to assess the success or potential success of the educational experience of a student.

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(5) Lusted, L.B. Introduction to Medical Decision Making. Springfield, Ill., Thomas, 1968, p.5.

1. The instructors. As will be described below, the interns worked with each of the staff at WSUML as well as librarians from other institutions. Each of these instructors can "evaluate" the intern in only a certain number of ways, (i) his abilities in using certain skills, (ii) his progress in learning, (iii) his work attitude, and (iv) his willingness to work within the environment. These evaluations are no different in quality and kind from those that are frequently prepared for a student's placement record by his library school instructors. Although such information provides data on the development of a student, it provides little information on what value the educational program is to the student other than he has acquired the approval of the instructors.

2. The intern. Library school students have a tradition of expressing negative attitudes toward their library school experiences. In recent years with demands for participation in curriculum development, students have almost a defined goal to be negatively critical. To ask a student to evaluate his ongoing educational experience can produce a critique with little constructive suggestion because his experience is too limited to judge the adequacy, relevancy, or importance of a total program at the time he is in the program. Student criticisms and evaluations are, however, useful in planning or in altering specifics of a curriculum.(6) On the other extreme, a student may give a glowing report of his experience -- he has made a choice to follow a particular educational direction and it is personally difficult for him to admit he made wrong choices, either in professional commitment or in educational development.

3. The employer. To ask a supervisor to evaluate a member of his staff is fraught with intangibles. The best that can be expected with such an assessment is how well an individual functions in the particular environment. The supervisor cannot, except under very unusual circumstances, know whether the proficiencies or failures of an individual are due to the excellence or inadequacy of educational experiences.

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(6) Flood, B. Student evaluation of teacher performance. Journal of Education for Librarianship 10:283-285, Spring 1970.

This discussion is not meant to say that the above approaches, whether followed through with questionnaires or interviews, are useless methods for assessing educational programs. They are unsatisfactory approaches for the assessment of the program reviewed here for the reasons given besides the fact that too few students have gone through the program (eight in three years) to make any statistical statements and have too recently completed the program to gauge any on-the-job success. After three years some means must be found to determine if the program is useful and should be continued, and if continued, should it be modified. The only alternative, it appears to us,(i) is to state the goals of the program, (ii) call upon our collective professional experience to assess whether the goals have been accomplished, and (iii) express our personal probabilities on the value of curriculum and instructional methods. The latter cannot be stated in numerical ratios until other like programs can be compared.

DESCRIPTION OF PROGRAM

When we first began to think of starting the internship, several assumptions were made, some of which we were aware and others, apparently, we thought were so obvious that they need not be stated. Three years of experience have altered our opinions about many of these unstated assumptions. We wrote a broad statement of objectives perhaps not expecting, as with many teachers, that we should ever have to examine the statement again. Because we were convinced we had a good environment in which we carry out an internship -- an operating institutional network that included investigative work (7) -- and because we felt we were functioning with a tradition of professional librarianship, we could have accepted Brodman's conception of an internship training program.

> I believe that a student...should be expected to put his theoretical knowledge to the test of actual practice, thereby uncovering "what they don't teach us in library school"; he

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(7) For a discussion of metropolitan Detroit's biomedical library network, see McNamara, M., ed. Metropolitan Detroit Network, Bulletin of the Medical Library Association 56:268-291, 1968.

> should be asked to view parts of medical librarianship in perspective for the whole of society; and to get the habit of comfortably asking questions and setting about answering them -- the comfort coming from the frequency with which he had done them.(8)

The program as originally designed has been described elsewhere.(9) For the purposes of discussion, the program can be summarized into four aspects, (i) curriculum, (ii) instructional methods, (iii) the instructors, and (iv) the students.

The Curriculum involves the objectives of the program which, it is hoped, the students will achieve. In general, the student was expected (i) to expand skills necessary for working with the technical operations of biomedical libraries, (ii) to learn about the organization and subject content of the biomedical scholarly record, (iii) to give him the confidence to engage in independent investigative work, and (iv) to contribute toward improving medical library services. Four environments were organized in which the student worked.

1. Formal course work. It was not a requirement of the program, but the student had the option to register for any course within the University which would contribute toward his proficiency as a librarian. The course need not be a graduate course.
2. Supervised work experience. The student worked in each of the WSUML operational units, Circulation, Reference, Cataloging, Indexing, Acquisitions, Serials, Interlibrary Loan, in 1969-1970 with the Kentucky, Ohio, Michigan Regional Medical Library, and in at least one hospital health science library.
3. Professional development. Time was assigned for the student to attend library staff meetings, medical school seminars, clinical pathological conferences, and both local and national library meetings and conventions.

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(8) Brodman, E. Interrelationship between academic degree programs and postgraduate internship training. Bulletin of the Medical Library Association, 56:364-367, 1969.

(9) Wayne State University Medical Library Fellowship Program in Medical Librarianship. Wayne State University School of Medicine and Biomedical Information Center, Report No. 25, January 1967.

4. Individual study. Each student undertook an investigative project on which he worked independently using the staff as consultants.

Instructional methods as used here refers to the means and procedures used in promoting the attainment of the general curriculum objectives, the improvement of skills and the development of an attitude toward medical librarianship. With the former the methods used were those usually employed in teaching any new staff member the procedures and routines of a department. The student was given "graded" work or undertook to trace routines through a department along work flow patterns. At the end of each of these units the student was expected to describe what he did in writing and critically examine the techniques and work flow pattern. Attitude development was fostered through attendance at professional meetings and other activities. The students were asked to report their impressions (and results) of meetings either to the staff as a whole or to discuss the experience with the Project Director or the Associate Director, but it was up to the student to synthesize these experiences into his own personal value system.

The Instructors included the entire professional staff of WSUML and in some instances clerical staff. During the year each student worked with 10 librarians or more, at least one of whom practiced in an institution other than WSUML. Strictly speaking, the staff were not instructors, rather supervisors who monitored the work the student did in the department. Obviously, each supervisor has his own value system and personality. The Program Director made no effort to codify the relationships involved.

The Students' qualifications were simple. They had to be U.S. citizens to receive the federal stipend and qualify academically to be acceptable for a beginning professional library position in the University library system. Almost any discussion of an educational program will have the admonishment that care must be taken in student selection because the success of the program depends on the quality and motivation of the students. Why would an individual choose this program

for professional development? The stipend was $2000 - $3000 less than he could earn as a beginning librarian. If he had the qualifications for a beginning library position what knowledge would the year's program give him which he could not have acquired by working in a well-run medical library? Is the program, in effect, a ruse to get individuals to work in a specialized environment?

IMPLEMENTATION OF PROGRAM

One of the excitments of any graduate educational program is the anticipation of each year's students. Our pluristic society theoretically tries to allow each individual to develop his own abilities and personality. Each group of students, if allowed, creates an atmosphere and an attitude different from previous groups. Certainly, this was the case in this program. The curriculum, the instructional methods, and the attitudes of the instructors were different each year. These differences were brought about by the evaluations and criticisms of the students and the growing sophistication of the staff. The contributions of the students cannot be underestimated although the ultimate value of the program to the students cannot be assessed at this time. What can be described is how the program changed and how staff instructors arrived at their conclusions.

The first year was one of testing our basic convictions. The student should arrive with fundamental knowledge of librarianship and the task of the staff instructors was to aid the student to convert this knowledge into the ability to undertake tasks with consummate assurance. Each instructor felt his work was highly complex, and the best way to learn the nature of the operation was to set up a learning environment in which there is a close intermingling of academic learning and the "real-life" problems of library operations. The enthusiasm and activity of the first year might be analogous to the library that had decided to "automate". After undergoing the analysis, the library operations were so altered and improved that the need for automation became unnecessary.

Faced with instructing students on the library's operations and having to deal with their questions caused many routines to be changed to more efficient procedures. The stimulation of working with students brought about changes in library operations and necessarily changes in the curriculum and instruction. (i) The teaching of techniques was easier than first anticipated. A more structured approach could be used to save time for both students and instructors. (ii) With less time spent on the learning and development of skills, the students could concentrate more of their efforts on acquiring insights into planning and managing library operations.

The curriculum for the students in the second year of the program was not altered in content, but there were decided changes in instructional methods. With the emphasis to be placed on developing skills for planning and managing the students were asked to do less describing of what they did, rather to examine the experience of each unit to determine what alternative policies, procedures, and methods might be adopted to improve service to the library's community. Suggestions proposed often could not be tested; that is, the institution of changes involved not only the internal operations of WSUML, but the University library system as well as the metropolitan medical library network. The only instructional alternative for promoting management skills we had available was to devote more time to individual and group conferences. The enthusiasm with which the students undertook this program was a constant educational experience to the staff. The student inquiry did not allow justification for policies to be stated merely in terms of traditional practices and beliefs. They re-emphasized for the staff a realization that a medical library cannot survive as an independent institution which uses the objectives of its parent body as a vindication of its limited services. Medical librarianship must have as its ultimate goal to set up an organization which permits access to the entire scholarly record for health professionals. Medical libraries, as institutions, must become increasingly socialized and new dependable institutional relationships and responsibilities established. The original purpose of the program was

to provide the student with the opportunity to learn about the environment in which medical libraries must function. What the second group of students brought out was the complexity of the sociology of the health care industry and the intricate policies involved in the operation of library service in this environment.

The second year of the program gave us the presumption that students were being prepared for planning library services, but the management aspect was another matter. We had the idea that the sequence of the development of administrative skills required an ability to supervise staff in library operations; further, a good supervisor must have an understanding of the techniques involved in the operations. This understanding is essential because all but a few medical libraries have small staffs. Supervisors must be able to teach new staff techniques, and also have the knowledge, and hence the assurance, to alter procedures to fit the limitations of specific situations. It is no secret that many recent graduates from library schools have an adjustment problem -- the student has difficulty in accepting that most of the daily work of librarianship involves routine tasks. There is ambiguity about what is professional work; library school instructors have emphasized that librarianship is a professional enterprise and should not be demeaned by undertaking non-professional tasks. Students on many occasions insisted that too much of the time of the program was spent doing repetitive work for which there was no gain in knowledge. Because we were convinced that students were not as equipped to be the good managers at the end of the year as we would like to produce and because of students' insistence we placed too much emphasis on technical proficiency, we asked a series of questions. Just what are the skills and techniques of librarianship that medical librarians need to know? Is it possible to define a performance standard that could be expected of a professional librarian? These questions caused us to investigate the literature of curriculum specialists.

One of the recent educational trends is the effort to describe instructional objectives in terms of observable behavior of the learner

or a product which is a consequence of learner behavior. We felt if we could distinguish the development of skills and technical proficiency from the fostering of attitudes in the art of librarianship, we could provide the student with a gainful year in professional enhancement. We then tried to state the instructional objectives of each unit of the program following the techniques proposed by Bloom (10) and as extended by Mager (11). Each unit was delineated as to how we expected the student to perform and/or what should be produced. The conditions under which the student would work and what instruments and facilities, for example, bibliographic tools, shelf list, etc., he was expected to use in gaining the instructional objective. Finally, we tried to state how the students' behavior or performance was to be measured; that is, a level of performance of a task, for example, the ability to verify 10 interlibrary loan requests per hour at a 90% accuracy. (See Addendum) By engaging in this activity we had convinced ourselves we could better control our curriculum and instructional decisions:

1. With objectives stated in terms of measurable learner behavior we could judge what should be continued in the curriculum.
2. Knowing what the instructors expected from the students we could better differentiate among students which objectives should be emphasized with which students.
3. We could pretest the students at the time they started the unit to avoid wasting the students' time teaching them what they already knew.
4. The student could be informed of curriculum objectives at the beginning of the instruction because the objectives and the performance levels were written; when the student attained the stated level of proficiency, he could move

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(10) Bloom, B.S., and others. Taxonomy of Educational Objectives. New York, Longmans, Green, 1956.

(11) Mager, R. F. Preparing Instructional Objectives. Palo Alto, Fearon, 1962.

on to the next unit.

5. Knowing the nature of terminal performance, we could arrange for appropriate practice opportunities during the instructional sequence; stated in another way, the instructor could diagnose deficiencies in knowledge and skills and direct or advise the student to engage in additional activity to acquire the specified level of performance with efficiency or similarly to avoid activities which are irrelevant.

Armed with this attitude of educational scholarship and with two years of experience of a program, we should have gained confidence in our motives for undertaking such an educational experiment. Both the instructors and students in the third year of the program suffered under what Popham calls the "threat-potential of precision". (12) Our first difficulty was attempting to define precise educational objectives. We found ourselves seemingly dealing with trivial skills. When defining minimal level pf performances emanating from these skills we felt they surely must be a basic part of library school academic education. Searching the literature of library education made us realize that our difficulties were not necessarily our lack of ability to define the teachable aspects of librarianship. We have not, nor apparently have very many other librarians, accepted the challenge of stating librarianship education as a process to change learner's behavior to produce products or an attitude.(13) We concluded that we were no different from other librarian educators who confuse means with ends. We teach means, that is, skills and techniques, as if they were ends.

Stating performance levels in measurable terms gave us the feeling that there was a certain degradation of professional activity. Our naïve purpose was to give ourselves the assurance that our students could perform at dependable levels. Instead of writing letters of

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(12) Popham, W. J. Objectives and instructions. In, Instructional Objectives, AERA Monograph Series on Curriculum Evaluation, No. 3, Chicago, Rand McNally, 1969, pp.32-52.

(13) For example, see Sabor, J.E. Methods of teaching librarianship. Paris, Unesco, 1969 (Unesco manuals for libraries, 16) pp. 114-145.

recommendation filled with subjective personality assessments, we wished to be able to say that a graduate of our program who was being considered as a serials librarian did know and understand the publication patterns of serials so that he could "solve" binding problems with near perfect accuracy. Our difficulties lay in defining what was measurable. Certainly we could accept the cliché that librarianship is more an art than a measurable science, but this does not mean we do not make judgments, nor can we abrogate a responsibility to work toward "objectivity". An art teacher must determine whether a student-produced art work is acceptable or not against some criteria. So must the art of librarianship. While it is easy to make broad statements of objectives which appear worthwhile to others; such as "the library's purpose is to make the entire scholarly record available to all health professions", when we start to describe precisely what librarians do, we run the risk of outsiders rejecting our intentions as unsatisfactory.(14) If what we do is indeed trivial, then as librarians we should know it and to the extent we promote innocuous behavior changes in educating librarians, we are obligated to abandon obscurantism through generalities.

Another threatening experience related to our efforts to define achievement levels. Measurability denotes an accountability. Until we define educational objectives which are measurable in terms of learner behavior how can we be accountable as educators; but more important, how can we make students accountable for their activities as professional librarians? The pressures on our library institutions are going to become greater as the years go by. Unless and until we can state precisely what the techniques of librarianship are and what they can produce, we shall never gain the ability to estimate the significance of new technology nor how to change our old patterns of behavior to respond to the information needs of our post-industrial society. Accountability of our professional function can only be obtained when we can measure the efficacy of our product, service.

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(14) Cf. Pings, V.M. The library as a social agency. College and Research Libraries 51:174-184, 1970.

PROBABILISTIC CONCLUSIONS

This program had been supported by a grant from the National Library of Medicine. While the program has been approved to continue, support funds were not available for 1971. Without federal or other subsidy, the program as designed could not continue. One of the purposes of this report is to assess what aspects of the program might be continued without federal support. Our conclusions, as stated several times, are probabilistic: given a set of conditions, our experience suggests certain educational activities be undertaken.

1. Our program did not, until the last year, make the necessary distinctions between the techniques of librarianship and the social role of the librarian practitioner. Once we began to examine techniques, we found there were few general skills and techniques which support library operations. If these techniques were taught in a systematic way and not confused with social objectives, the student should acquire this knowledge in a library school. Either library schools have not created an environment for the student to learn these techniques, or library instructors commit the same error we did, confuse means and ends. It is our conviction that there is no justification to create a post masters program to teach basic techniques. A program as this should not have to spend more than 15% of the student's time with this aspect of librarianship and any time given to this basic element of librarianship should be devoted to testing alternative ways of using standard techniques. Every library school graduate, for example, should be able to determine whether a library owns a particular title and where it is located at a rate of 40 per hour approaching an accuracy level of 100%. If library schools cannot incorporate such skill development within the curriculum, then it will probably have to continue to be on-the-job training as it has in the past.

2. There are two possible justifications for an internship which for the most part concentrates on skill development of "traditional" library operations. A large library organizes an intern program to teach the students the operations of its own system with the expectation that after the training period a position (assuming successful completion of the program) will be offered the student. Only a few biomedical libraries in the country are large enough to make such a commitment to its interns.

If the "teaching" library is going to employ its graduates, should this not be considered an in-service training program and be supported by that library? The other possible justification for an internship which concentrates on teaching the students the application of the theoretical knowledge in a working environment is that the student is being trained as a system analyst or a similar kind of specialty; that is, the student must have a thorough grounding in existing library techniques before he can analyze them. The question on our mind is, should an operating library unit take the leadership for such kinds of training? Would it not be better for a library school to monitor such efforts as is the case with other professional schools as social work, nursing, and increasingly in other health professions, including physicians?

3. As described above, one of our objectives was to provide students with an opportunity to "get-a-feel" for planning and management of biomedical libraries. One of the student assignments was to prepare an investigative paper which arose from their study of planning and management aspects. While we can point with some pride to several creditable papers produced by the trainees, we come up with a question similar to the one just asked above. Why should a library operation undertake to teach investigative procedures? Could not a library school, particularly those with a doctoral program, better foster research attitudes in students? Certainly, at least some of the library directed research should be undertaken using operating libraries as laboratories. Creating a research department in an operating library can only be dependably maintained in large library organizations. Is it not one of the functions of an academic unit to create a climate of research? Three words have been used, planning, management, and research. If the research separated from library school direction is not a suitable program, what about the other two? We can present working papers produced by students which demonstrate able insight in planning (more than just mere analysis of an ongoing operation). However, the task of planning takes such a long time the student will have left his internship long before the management problems of the plan are worked out.

Only in the situation where the program can offer the student a position in the institution for which he did the planning can he follow through either with the managing or with monitoring so that his plan can be modified as needed to produce the desired effect. An internship which purports to train library planners is reversing a library tradition. Library consultants traditionally have gained their reputation through demonstrated competence in management or administration. One must be sensitive to the market place. Can a one-year post-masters educational program produce medical library planning experts who are marketable? Again, only a very few medical libraries can afford to hire such an expert, and if they can afford such a person would they invest their funds in an untested planner? One could rationalize investing educational resources into producing planners who would have to delay using their expertise until they get established with the hope they would recall their internship experience when the opportunity arose.

Concentrating on internship or management skills does not seem justifiable either. If a library has a plan, why not just hire a manager to put the plan in action? Management is teachable or else we have no justification for supporting schools of business. A management intern in such professions as hospital administration is given responsibilities and must demonstrate he can make a contribution to the institution -- his internship then becomes more, or at least different from, an academic study of management practices.

4. The point was made at the beginning of this report that the one distinctive feature of medical librarianship is the environment in which it must function. If a medical librarian is to match the imagination of his users in dealing with their library information problems, then he must have some comprehension how biomedical information is generated and used. There is no question that there is a quality of drama in the way the health knowledge is applied. The sociology of health care, research, and educational institutions has a communication system that is somewhat different from other kinds of institutions.

An appreciation of this communication can perhaps be acquired abstractly, but a biomedical librarian can only be a part of the health science team if he can observe and participate in the communication activities. A structured program to introduce librarians to the ongoing sociology of medicine, however, does not require an internship program. Part of the duties of all medical librarians should include attendance at clinical pathological conferences, journal clubs or seminars.

We have come to the reluctant conclusion from our experience that the only justification for an internship is if the library supporting the program is in effect training students for appointment to their own staff; such a program, however, should be called in-service training rather than an internship. We feel that all the "experimental" educational work we undertook -- skill development, planning, management, and investigative work -- rightly should be started in library schools. The cost of collecting an instructor staff for medical libraries is an unrealistic use of educational resources and talents. Library schools have the obligation to create a group of library expert-research faculty. More important, what this program has revealed in our "clinical" judgment is that students should have laboratory experience if they are going to develop professionally to meet our present needs for librarianship expertise. Part of such laboratory experience can be created within the library school environment just as the scientific disciplines have. Further, using the methods in curriculum development practiced by many professional disciplines, internship type experiences are provided, if not required. Nearly all such educational programs are under the direction of the faculty of the professional schools. To emphasize, if the only way to attract librarians to a specialized field is by organizing a prestige-type internship program outside the academic environment of the professional, we cannot expect the quality of library education to improve because we are disbursing our talents in an inefficient manner.

ADDENDUM

Educational Objectives
Proposed for
WAYNE STATE UNIVERSITY
Internship Program in
Biomedical Librarianship
1969-70

WAYNE STATE UNIVERSITY
School of Medicine Library

POST-MASTER'S FELLOWSHIP PROGRAM IN MEDICAL LIBRARIANSHIP

General Objectives

From the trainee's own study and background, and from his experience of supervised participation in activities throughout the year, the trainee must be able

1) to demonstrate competence in administrative and technical operation of biomedical libraries by application of skills and techniques,

2) to demonstrate his knowledge of the social function of the medical and paramedical professions,

3) to demonstrate a knowledge of the organization and subject content of the biomedical scholarly record,

4) to demonstrate an attitude that will be productive and constructive to librarianship and to the total biomedical community.

The trainee will have the opportunity to accomplish the above general objectives through the creation of specific units of study and through participation in specific environmental situations. In each instance the trainee must indicate that the unit was or was not useful to his professional development by describing his experience in prescribed "objective" ways:

1) Given any technical operation with which WSUML is involved in either its intra- or extramural programs, the trainee will describe and analyze the operation and the constraints imposed by the environment and relate the resultant description and analysis in graphic form with the aid of flow charts, tables, or any other descriptive devices; the analysis should describe alternate methods of undertaking the operation. The trainee should demonstrate to his mentor he could supervise the aspects of the operation he describes.

2) Given the available data on the administrative organization of WSUML, other library units, or a specific service, the trainee will analyze and then synthesize the data to show that the existing organization is the best possible or how it can be improved with the space, personnel, and budget available; if the trainee concludes the organization should be altered, he will have to devise a plan in writing for implementing the changes in reorganization required for the improvement.

3) Given any word or phrase relating to any health activity, the trainee must be able to show how the ideas, concept, description, etc., (a) fit within existing biomedical scientific classification systems, (b) are used or understood by different groups of health professionals (that is, who is most concerned with the activity), and (c) are recorded and organized for retrieval in the scholarly record.

4) Given the opportunity to engage in an investigative project, the trainee must identify, make observations, collect and interpret data, analyze and make qualitative and quantitative evaluations of a practical problem or theoretical concept and communicate the results of the investigation in a form suitable for publication in the medical library's report series.

5) From his participation in all aspects of the program the trainee must give evidence that he has developed a positive feeling toward librarianship; he should (a) be able to perceive the role of librarianship in health care, education, and research, and (b) have a clear concept of his own attitude which he can verbalize relative to specific goals of the health professions and librarianship.

Specific Objectives of the Program

As noted in the general objectives, specific units of study or concentration are to be undertaken by the trainee. Each of the units has an identifiable content, a specific group of skills, knowledge and instruments with which the trainee must work, and a minimum level of performance the trainee is expected to accomplish by the end of the time he finishes with the unit. Additional units or work in greater depth than described may be undertaken depending upon the trainee's interest, however, he will be expected to cover the following units and during the year relate the work of each unit to other units.

Professional Growth

CONTENT

Medical librarians are facing the same kinds of problems brought about by social and economic changes as persons in other professions. The trainee must demonstrate by his behavior that he can determine his own role within the medical library, the biomedical community and the medical library profession and that he can be an active and contributing member of the medical library profession.

SKILL AND INSTRUMENTS

a. Attitude. The trainee must be able to describe methods of approach that will enable him to increase his knowledge and increase his ability to apply his knowledge to the social organization of library science.

b. Communication. The trainee must develop techniques of communication to enable him to have responsive interchange with his peers and library users.

c. Self-direction. The trainee must be able to demonstrate by his behavior that he is self-motivated and has an interest in his own professional development.

PERFORMANCE

1. The trainee must participate in weekly meetings of the WSUML staff by listening and responding vocally to the discussions, offering his own viewpoints in a free exchange of ideas.

2. The trainee must participate in the meetings of the Detroit Medical Group, the MLA Midwest Section Spring and Fall meetings, the Tri-State Hospital Assembly and the MLA Annual Meeting and he should be able to indicate his interest and responsibility for participation by making an oral report on selected meetings to the staff of WSUML.

3. The trainee must be able to make self-evaluations by identifying his own skills, knowledge or attitudes that need strengthening or for which he requires more training to enable him to meet or exceed the current requirements for positions open to medical librarians.

4. The trainee must demonstrate a willingness to accept responsibility by voluntarily taking part in the decision-making process independently or in a group to the satisfaction of the Training Staff.

5. The trainee must demonstrate an increase in confidence in his ability by recommending or initiating changes based on his judgments to have value for a group, organization or service to the satisfaction of the Training Staff.

6. The trainee must be able to convey his own ideas so that they are understood and must be able to elicit information and responses from others by demonstrating skill in supervising each department in which he has training to the satisfaction of the Training Staff.

7. The trainee must demonstrate by his behavior a willingness to participate and be of service to the different library groups of which he is a member by acquainting himself with significant issues in librarianship and by cooperating in projects or activities undertaken by these groups.

Weekly Conferences

CONTENT

The conference is one of the mechanisms to assist the trainee (1) to adjust to new environments, (2) to identify objectives; the trainee should make the meeting an opportunity for professional and personal growth through advisement, coordination of training experiences and continuous self-evaluation. The trainee must demonstrate that he has the ability to assess his work, his attitudes and any learning experience that occurs orally, and in writing, if necessary.

SKILLS AND INSTRUMENTS

The trainee must be able to demonstrate

a. that he can evaluate his own developmental process in relationship to any aspect of the training experience,

b. that he can interact with other members of the trainee group,

c. that he can examine his interpersonal behavior critically,

d. that he can weigh issues and opinions in terms of their effect upon the total library environment.

PERFORMANCE

1. Given the opportunity, the trainee must participate actively in discussions evaluating training experiences.

2. Presented with "feedback" in terms of his performance in any training experience, the trainee must be able to defend orally any attitude, position or theory to the satisfaction of the other trainees and the Program or Associate Program Director.

3. Given evaluation forms, the trainee must be able to give an overview of the program in writing, identifying problems encountered in any area and offering solution or alternatives to them.

CONTENT

CPCs are held weekly by the WSU School of Medicine at the Detroit General Hospital. In order to observe the interaction among health care professionals in a clinical setting, the trainee must attend these conferences. In addition, the trainee may attend any departmental seminar or Student-Faculty Assembly held by the School of Medicine.

SKILLS AND INSTRUMENTS

The trainee must be able to ide tify the medical terminology used in these conferences; or he must be able to identify the subject areas in which he needs further familiarization with the terminology.

PERFORMANCE

The trainee must be able to discuss the content of any CPC, using correct terminology to the satisfaction of the other trainees and the Trainee Staff.

Document Delivery (except Interlibrary Loan Service)

CONTENT

WSUML and other biomedical library units with which the trainee will be associated have a clientele to whom they are responsible for the delivery of documents; the trainee will be expected to evaluate the adequacy and the efficiency of the service in different environments, or demonstrate a means for studying whether the existing system is adequate.

SKILLS AND INSTRUMENTS

a. Policies. Each library unit has a defineable clientele for whom document delivery policies are stated overtly, or in some cases, merely assumed. The trainee must identify these policies from staff manuals, written circulation procedures, and explanations from the Circulation Librarian and be able to explain the variations in policies to different user groups dependably, i.e., consistent with the libraries' policies to all clientele.

b. Records. Each of the records required for document delivery are to be studied and their organization understood as to their purpose in locating and delivering documents: public catalog, shelf list, serials shelf list, kardex records, local union lists, orders outstanding files, bindery records, circulation records, photoduplication request forms, overdue reminders, circulation hold forms, announcements of availability, missing volume files, cataloging in process files, and shelving procedures.

c. Library Arrangements. The trainee must be able to describe orally to library users and if asked, in writing, the arrangements of the libraries' collections and how the location of each item can be identified (i) from the records maintained by each library unit and with which he works and (ii) the purchased bibliographic control services.

d. Collection Control. The trainee will participate in the work involved in stack maintenance; that is, assignment of staff for reshelving, shelf reading, the need for shifting units and collections.

PERFORMANCE

1. Given a specified number of items to retrieve, the trainee will be able to locate them or give a report of the availability or status at a rate of 40 per hour, approaching an accuracy of 100%.

2. Given the existing records, the trainee must be able to prepare monthly reports on all phases of document delivery to show (i) trends of activity, (ii) efficiency of operation, and (iii) adequacy of library performance.

3. The trainee must be able to prepare, process and maintain all records related to document delivery with an accuracy so that he can teach clerical staff how to prepare and utilize the records to carry out the libraries' document delivery service. The trainee will teach and monitor

at least one student assigned to document delivery service during the year on his responsibilities in the department at WSUML.

4. Depending upon the trainee's interest or upon the recommendation of the Circulation Librarian, the trainee may be asked to, but should in any event, be able (i) to analyze the usefulness of any specific record in document delivery so that recommendations as to its administrative value can be made, (ii) to analyze the storage arrangements and if needed, make recommendations for rearrangement, presenting a plan involving all aspects of carrying out the recommendation, e.g., renovation, time required for shifting, new stacks, reposition of storage units and work flow in record maintenance, and (iii) to analyze the work flow of document delivery to demonstrate the efficiency of the operation and what factors, e.g., staff deployment, storage arrangement, contribute to the efficiency of the operation.

Reference and Information Services

CONTENT

The Reference-Information Services unit of any biomedical library is organized essentially to provide biomedical information in diverse forms from available biomedical reference-information resources. The trainee, through knowledge (1) of the structure of medical and paramedical professions, (2) of medical terminology and (3) of reference and information resources of WSUML must demonstrate that he can carry out the established policies for providing reference-information services.

SKILLS AND INSTRUMENTS

a. Reference and Information Resources. The trainee must demonstrate that he can identify and use appropriately the reference-information resources of WSUML, i.e., abstracts, indexes, bibliographies, directories, dictionaries, almanacs, atlases, encyclopedias, handbooks, sourcebooks, textbooks, monographs, serials, union catalogs, the card catalog and the serial record.

b. Citation Verification. The trainee must demonstrate that he can look, locate or identify in appropriate instruments any part of any biomedical bibliographic citation, i.e., author, title, volume, year or pages.

c. Provision of Lists of References. The trainee must demonstrate that he can (i) prepare short or exhaustive lists of references and (2) locate or guide clientele to lists of references that have already been compiled or published, i.e., bibliographies, recurring bibliographies, or references listed by subject or name in any biomedical index, on or about any biomedical personage, society, agency or any other biomedical group for any year or specified number of years and written in any specified language.

d. Answers to Specific Questions or Requests for Biomedical Information. The trainee must demonstrate that he can look up or locate in the appropriate instrument, e.g., a directory, dictionary, handbook, the answer to a simple fact question, e.g., word definition, address, name. He must demonstrate that he can provide information in the form of simple summaries, e.g., a biographical sketch, involving a synthesis of simple facts from a number of instruments.

e. Interpretation of User Requests for Reference-Information Services. The trainee must demonstrate that he can negotiate with the user in such a manner that the user will have acquired all the reference-information services requested within the constraints of the biomedical library unit and the competency of the trainee and staff.

f. Formulation and Execution of Search Strategies. The trainee must demonstrate that he can formulate and put into effect search strategies, i.e., define the parameters of the search in a sequence of action necessary to carry out the reference-information process. He must also demonstrate that he can determine when services requested by the user cannot be provided by the unit and that he can refer clientele to appropriate outside agencies when necessary.

g. Informal Instruction in Use of the Library and its Resources. The trainee must be able to demonstrate that he can give informal instruction in the use of the library or any of its resources to any individual or group of individuals that request it. He must be able to describe or explain its services, facilities and any of its reference-information resources.

PERFORMANCE

1. Given any reference-information instrument, the trainee must be able to describe it orally and demonstrate its use in the reference-information service unit of WSUML.

2. Given a specified number of biomedical citations, the trainee must be able to verify at least 12 citations within a maximum period of one hour or, if unsuccessful, must be able to assess how much additional time is necessary in order to verify, or must indicate that the citation(s) cannot be verified at WSUML.*

3. Given any term from any clinical or scientific classification scheme, e.g., Standard Nomenclature of Operations and Diseases, Bergey's Manual of Determinative Bacteriology, or the name of any biomedical personage, society or organization, the trainee must be able to prepare a list of references or locate a list of references already compiled or published which explain the meaning of the term or identify the name with a scholastic or social context. If he is unable to do so, the trainee must be able to graphically design a search strategy to gain this information to the satisfaction of the Reference Librarian.

4. Given any biographical information which can be answered from one or two sources, the trainee must be able to provide a simple fact answer or simple summary within a maximum period of 20 minutes. If the trainee is unsuccessful, he must be able (a) to assess how much additional time is necessary to secure an answer or the information or (b) to indicate why the information is not available at WSUML.

5. Given any citation which he is unable to verify, any term or name for which he is unable to locate or prepare a list of references, or any question or request for information for which he is unable to give an answer or provide the information, the trainee must be able to present his search strategy in graphic or oral form and to make decisions regarding referral to outside agencies to the satisfaction of the Reference Librarian.

6. Given the description of a group who wish to use WSUML, the trainee must be able to outline a plan for informal instruction in use of the library and its resources that relate to the biomedical interest of the group to the satisfaction of the Reference Librarians.

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* The performance criteria in biomedical citation verification in the Reference-Information Services unit differs from that of the Interlibrary Loan unit because of the decision-making factors involved in the Inter-Loan verification process.

7. The trainee must be able to justify all actions in negotiating a request with the user or be able to explain and defend his decisions when the request is not filled to the satisfaction of (a) the requester, (b) other trainees and (c) the Reference Librarians.

Indexing

CONTENT

Biomedical concepts and the vocabulary of the biomedical community are constantly changing. The trainee must demonstrate that he can relate current biomedical concepts to the terminology which describes these concepts in the subject authority files or the thesaurus.

SKILLS AND INSTRUMENTS

a. Medical Subject Headings (MeSH). The trainee must demonstrate that he can apply the rules and use the terms for subject analysis as indicated in MeSH.

b. The trainee must demonstrate that he is able to define biomedical terms and make appropriate subject analyses of biomedical journal articles.

PERFORMANCE

Given six core biomedical journals, the trainee must index them using MeSH terminology and show that his subject analyses are comparable to those appearing in current issues of Index Medicus and those used by other trainees; or if they differ, he must be able to explain and defend his choices to the satisfaction of the other trainees and the Reference Librarian.

Interlibrary Loan Service

CONTENT

The lending and borrowing of materials among biomedical library units has become an important, and expensive, biomedical library service. The trainee must be able to explain in writing, if asked, the need for, the relative importance of, and the administrative organization required for this service from the viewpoint of a user, a library unit, a library network, and a national system.

SKILLS AND INSTRUMENTS

a. Borrowing policies. The trainee is to become acquainted with the conditions under which an interlibrary loan transaction (i) will be initiated, (ii) who may initiate it, and (iii) the responsibilities with respect to the transaction of the requester and the library in different environments.

b. Lending policies. WSUML has, in a sense, three general interlibrary lending policies, (i) intra-university, (ii) metropolitan service area, and (iii) the Kentucky, Ohio, Michigan Regional Medical Library program (KOMRML). The trainee will study these policies to enable him to classify each interlibrary loan request received at WSUML. He must be able to analyze in writing from the user point of view the policies in terms of convenience, service and performance.

c. Records. Each interlibrary loan transaction generates a record; the trainee will prepare and maintain the appropriate files for each type of transaction.

d. Work flow. The trainee will engage in all aspects of the work flow of processing interlibrary loans, both borrowing and lending, and will work with, or at least discuss with, the Interlibrary Loan and Circulation Librarians on the administrative control of maintaining this work flow.

e. Evaluation. Various monitoring devices are used to account for interlibrary loan activity for administrative and fiscal purposes. The trainee will contribute toward maintaining and assisting in evaluating the results from these monitoring devices.

PERFORMANCE

1. The trainee will undertake with 100% accuracy all aspects involved with the initiation of an interlibrary loan request, acceptance from user, verification, selection of appropriate library from which to borrow, preparation of A.L.A. form or the TWX request form, maintenance of file records, and delivery (or reorder) of document request.

2. Whether the interlibrary loan request is initiated at WSUML or whether it is received by the Interlibrary Loan Librarian from the interlibrary loan processing staff, the trainee will verify the accuracy of the request and its availability at WSUML or some other institution at a rate of 10 per hour with 100% accuracy.

3. The trainee must be able to process verified unfilled interlibrary loan requests received from other libraries according to WSUML and KOMRML policies with 100% accuracy as determined by the Interlibrary Loan Librarian and the Associate Director of KOMRML at a rate of 20 per hour.

4. After assisting in preparing reports and monitoring records on interlibrary loan activity, the trainee should be able to prepare in writing a description of the activity and if needed make recommendations for improvements in operation or in policy statements; such recommendations must include a plan for implementation.

5. After carrying out all operations of the interlibrary loan lending procedures, the trainee should be able to prepare job descriptions, work flow patterns and responsibilities for each aspect of the total lending operation including such details as machine maintenance, storage of supplies, etc.

6. After the trainee has completed about six months of his training, he should be able to teach and explain the procedures required to prepare an interlibrary loan request for processing by WSUML to non-professional hospital librarians, and, if needed, advise or assist them in establishing interlibrary loan policies for their institution.

Serials

CONTENT

WSUML receives approximately 3,000 serial titles. After working with the control records, the trainee will be able to identify the different publication patterns of biomedical journals insofar as they relate to bibliographic control, storage and retrieval of serials.

SKILLS

After completing his experience in the serials unit the student will be able to:

a. Identify and name the function of all the records maintained at WSUML for serial control.

b. Identify alternative types of serial records and be able to describe why the alternate types are, or are not, suitable for use at WSUML.

c. Identify inadequacies and errors in the control of serials at WSUML and be able to carry out actions to correct the inadequacies and errors, e.g., claiming, recatologing, undertaking an inventory of a title, rebinding, ordering back files and issues, and correcting records.

d. Determine if a particular title should be added to or withdrawn from the collection and be able to carry out all the procedures involved in adding or withdrawing.

e. Describe and explain all procedures and routines to clerical staff so that the staff will perform the routines without error.

f. Describe, after also completing the unit in acquisitions, how and why routines differ in the processing of serials, monographs, and audio-visual material in writing with the use of diagrams and flow charts.

INSTRUMENTS

The trainee will work with each of the following records so that he may add or withdraw information correctly.

1. Visible file records.

   a) check in file.
   b) source of receipt information.

2. Serial shelf list.

3. Bindery file.

   a) for preparation of binding.

   b) for identifying binding to be done.

4. Gifts and exchange file.

5. Serials subject and geographic file.

6. Master print-out file for union lists with which WSUML contributes.

PERFORMANCE

1. The trainee will be able to demonstrate to the satisfaction of the serials librarian that he can add or withdraw information to any of the serial records without revision: that is, given a problem which he may not have encountered during his experience in working with serials, he will be able to determine what alternatives are available to deal with the problem.

2. If requested by the director, the trainee will be able to (i) describe in writing any or all aspects of the flow of work involved with serials control at WSUML, (ii) prepare data so that the efficiency - cost - effectiveness of a particular routine can be demonstrated, and (iii) describe some alternative procedures from those now employed, how they could be implemented, and the consequences if they were unokenebted,

3. The trainee must be able to describe alternate methods of storing the journal collections within the constraints of WSUML; further, should specific constraints be changed, what possible alternatives would become available for storing serials and what consequences would result in retrieval for users, both clientele and library staff.

Acquisitions

CONTENT

The value of biomedical library units is based upon selection policies which determine the nature and extent of the collection. Each unit has essential institutional programs that make it necessary to define the limits of book selection. The trainee must be able to formulate book selection and order policies and procedures for any biomedical library unit or be able to demonstrate graphically a plan for study to develop a policy.

SKILLS AND INSTRUMENTS

a. Book selection. The trainee must identify and evaluate various book selection bools, i.e., Library of Congress proof slips, National Library of Medicine Current Catalog, Books in Print, Cumulative Book Index, publishers' ads and catalogs, out-of-print catalogs, book dealer's catalogs, reprint catalogs, bibliographies, book lists, government publications, and periodical book listings and reviews, with regard to extent of coverage, subject content, currency and reliability of information to enable him to carry out the selection policies of any biomedical library unit. He should also be able to define the subject limitations of the book collection in terms of selection policies by describing the user population, identifying objectives of the library unit and analyzing in writing the effect on the nature and extent of the collection.

b. Order policies. The trainee should be able to graphically present the physical flow of materials through the entire order to payment process. He must be able to distinguish between policy variations for different biomedical library units and be able to carry out the process in each unit.

c. Pre-cataloging. Temporary entries at WSUML for new books are established from Library of Congress cards or proof slips or other book selection tools whenever possible. The trainee must indicate the appropriate entries using the selection tools available or must assign an entry of his own.

d. Withdrawal policies. It is necessary at times to remove titles from the collection either because they are missing or because they are no longer needed in the collection. The trainee should be able to identify those titles which should be replaced by searching the book selection tools to locate items still in print. He should be able to identify titles which should be withdrawn by evaluating them in terms of changes in subject needs of the users and changes in methods of research and development in the biomedical field.

PERFORMANCE

1. Given access to a number of book selection tools, the trainee must be able to identify the extent of coverage and the special subject area, and differentiate in their use in various book selection procedures to the satisfaction of the Acquisitions Librarian.

2. Given a specified number of books, the trainee must be able to select in accordance with the values set by the Acquisitions and Reference Librarians, those titles pertinent to the collection with 95% accuracy or otherwise be able to justify his decisions for selecting.

3. Given a specified number of titles, the trainee must be able to order from appropriate dealers and must be able to process the resultant invoices with 100% accuracy.

4. Given a list of missing titles, the trainee must be able to identify those titles still in print and indicate in accordance with values set by the Acquisitions Librarian titles which should be replaced.

5. Given a specific number of books within a classification, the trainee must be able to identify those books which are no longer needed in the collection by evaluating them in terms of changes in subject needs of the users and changes in the methods of research and development within the biomedical field and in accordance with the values set by the Acquisitions Librarian.

6. Given a specified number of books, the trainee must be able to establish temporary entries for them by searching the appropriate selection tools or when unable to locate an entry must be able to assign one himself to the satisfaction of the Acquisitions Librarian.

7. After the trainee has completed seven weeks of his Acquisitions training he should be able to supervise, maintain and solve any general problem that may be encountered in the book selection and order operation. He should be able to analyze in writing the work flow and procedures to the extent of being able to identify elements which may appear inconsistent in any process and make explicit statements regarding an alternative design of operations. He specifically must be able to temporarily assume the position of Acquisitions Librarian at WSUML at the end of a seven week period.

Cataloging and Bibliographic Control

CONTENT

WSUML prepares bibliographic description of all items included within its collections so that it is suitable for inclusion in the public catalogs of WSU General Library and the Detroit Public Library, as well as to distribute to biomedical libraries throughout the area. WSUML uses the LC classification system and MeSH headings. The trainee must be able to explain in writing the value of the different cataloging "systems" for different biomedical library environments. The trainee will follow the flow of work involved in cataloging at WSUML and will complete cataloging for as many different types and formats as available during the training period suitable for use by WSUML.

SKILLS AND INSTRUMENTS

a. Authority files. The trainee is to revise a section of the name authority and subject authority file, and will work with these files until he demonstrates orally to the cataloger that he understands the function of the authority files and is able to add entries with appropriate cross references traced and cards revised for the public catalog.

b. Cataloging systems and procedures. The trainee will be instructed in cataloging through a series of steps: (i) adapting LC bibliographic information to the public catalogs to which WSUML must contribute, (ii) adapting LC call numbers utilizing the shelf list (the trainee, if he wishes, may also use any other classification system for a comparison), (iii) assigning MeSH headings to monographs (the student should have become acquainted with MeSH through another unit), (iv) adapting NLM catalog information to the WSU cataloging system, (v) doing original cataloging suitable for submission to NUC. The trainee will prepare (i) all catalog information and (ii) complete instructions for the typist, e.g., preparation of authority cards, typing copy, correcting errors, etc., to the satisfaction of the cataloger-reviser.

c. The trainee will revise the work of other catalogers, identifying cataloging and typing errors, and prepare instructions for their correction.

d. Utilizing the A.L.A. filing rules with the modifications adapted by the WSUML, the trainee will both file cards into, and then revise, the filing of others in the public catalog.

e. The trainee will catalog serials following the rules adopted by WSUML and prepare all records for the (i) serials shelf list, (ii) serials subject catalog, (iii) for New Serials Titles, and (iv) the Wayne State University and KOMRML Union Lists.

f. Depending upon the availability of material, the trainee will analyze monograph serials or other units, cataloging these titles to include all records for the public catalog and the appropriate shelf lists.

g. Depending upon circumstances during the period the trainee works with his catalog unit, he will withdraw titles from the collection or describe orally the procedures for withdrawing titles.

PERFORMANCE

1. Given monograph titles with published bibliographic information, the trainee will be able to catalog 25 titles per day with LC bibliographic information, or 20 per day with NLM bibliographic information, with no content errors in the cataloging.

2. The trainee will have the skill and knowledge to catalog 10 titles per day for monograph titles or 10 serial titles per day if no published bibliographic information is available.

3. Instructions to prepare information for authority files, shelf lists, public catalog, and copy for submission to NUC or NST must be made with 100% accuracy.

Regional Medical Library

CONTENT

The independent, all-encompassing library has become an anachronism in our society. The method being used to bring library institutions into a better position to supply information to biomedical professionals is the creation of library networks and systems. The Regional Medical Library program of the National Library of Medicine is an attempt to develop a national medical library network. The trainee will study the administrative organization of the Kentucky, Ohio, Michigan Regional Medical Library (KOMRML).

SKILLS AND INSTRUMENTS

KOMRML was created through a grant from NLM. The grant application is the "authority" under which KOMRML is operated. Monitoring devices have been devised to determine the extent, adequacy, and changes of the program. Administrative and operational procedures have been devised and operational reports are prepared quarterly. The trainee, after studying these instruments will analyze at least one part of the program for its cost-effectiveness in relationship to the stated objectives.

PERFORMANCE

After studying the several instruments the trainee will analyze one of the instruments by whatever method he deems suitable and prepare a written report to include one or all of following:

1. Given the institutional, fiscal, and other constraints of KOMRML, what alternative administrative organization is possible to accomplish stated objectives?

2. Are the data collected and reported suitable measures of KOMRML's operation?

3. Are there mechanisms or procedures which are more suitable to perform the functions of KOMRML?

4. What procedures can be introduced to reduce the cost in providing any of the KOMRML services?

Hospital Medical Libraries

CONTENT

Since there are more hospital medical libraries than any other type, the trainee must be able to demonstrate a knowledge of the functions and specific problems of this area of medical librarianship.

SKILLS AND INSTRUMENTS

a. Reference services. The trainee will be able to provide reference services, i.e., citation verification, subject references and answers to specific questions, to the clientele of the hospital medical library.

b. Special projects. The trainee will engage in and assist the hospital librarian in determining methods to improve technical operations and services.

PERFORMANCE

1. The trainee will have most of his study units at WSUML and will be required to perform all services at the hospital medical library at the same level of performance expected at WSUML and to the satisfaction of the hospital medical librarian mentor.

2. The trainee should be able to analyze in writing, if necessary, the work flow procedures of any technical operation and will be able to redesign any part of that operation which he feels would provide more efficient service, justifying his decisions and making subsequent recommendations into policies or procedures with the consent and to the satisfaction of the hospital medical librarian before he terminates his service there.

3. The trainee will make a report in writing which must indicate that he can distinguish between the functional differences between hospital medical libraries and academic medical libraries. He must also be able to describe in writing the structure of the health care environment.

CONTENT

The administration of all libraries involves the deployment of staff to carry out the various service functions in the most efficacious manner. A library is judged by its users in terms of its usefulness to them in performing their health care, research, and educational duties. A library must be judged then in the means it employs to utilize all its facilities and resources. No specific time period is to be devoted to the art of "administration", but this art is to be learned through the application of analytic procedures in other assigned units.

The art of administration is the ability to secure data and then to analyze the data, resulting in a description of the most appropriate means to utilize staff and facilities to accomplish stated objectives. The tangible results of administrative acumen are the definition of job assignments, the precision and ease with which work flows, clearly written reports of accomplishments and plans, and ultimately the translation of all these elements into fiscal descriptions.

SKILLS AND INSTRUMENTS

The posture the trainee is to assume in preparing this analysis is that of a consultant who has been asked to judge the adequacy of a library operation. The trainee will, therefore,

(i) utilize his own background and knowledge,

(ii) utilize the expertise of the library staff,

(iii) devise a method for data collecting if sufficient information is not available to make an analysis and then either collect the data himself or persuade the library staff to collect the data for him, and

(iv) relate whatever data and information that can be found in professional literature to the analysis.

PERFORMANCE

After completing each unit the trainee will write a report which will include at least the following:

1. A description of what he did stated in both qualitative and quantitative terms.

2. A description of the job assignments of the staff carrying out the work of the unit.

3. A discussion of the relationship of the work of the unit with the tasks involved with other library functions, particularly with those the trainee has already engaged in.

4. An evaluation of the adequacy of the library's procedure manual in describing the work of the unit, and finally

5. A discussion of what might be done to improve the work flow of the unit.

Sometime during the year the trainee will choose one of the public or technical service units for administrative analysis. The report described above is essentially a description of the student's own accomplishment during the time he spends in the unit. The more detailed analysis of a whole work unit, or one segment of it, discussed here will include at least the following:

1. A description of the specific tasks to be accomplished with a demonstration through some graphic means how each task is related to other tasks within the unit and to other functions of the library.

2. An analysis of the assignment of these tasks to existing staff.

3. A critical review, and if necessary a rewriting, of procedure manuals to better describe routines and procedures.

4. A description of the systematic collection of data to explain and to evaluate the accomplishment of the unit, or segment of the unit, under study.

Research or Investigative Project

CONTENT

The research or investigative project offers a base for systematic approach to the study in medical librarianship. Investigation may be descriptive or explanatory. The trainee must demonstrate that he can work independently and exercise originality and initiative in the formulation, development and completion of an investigative project in the field of medical librarianship.

SKILLS AND INSTRUMENTS

The trainee must be able to demonstrate

a. that he can identify and clearly state a problem,

b. that he can state the aims and objectives of the project and define any special terms that he uses,

c. that he can search the literature in the field of medical librarianship regarding the problem,

d. that he can describe the techniques and methods used in his approach to the problem,

e. that he is able to make observations, collect, identify, analyze, and present graphically, when appropriate, any data pertaining to the problem,

f. that he can state and interpret his findings in a logical manner, and

g. that he can summarize and establish conclusions in line with his aims and objectives.

PERFORMANCE

1. Given the opportunity to observe the operational, administrative and bibliographic aspects of WSUHL, KCMRHL and the Detroit Medical Group institutions, the trainee must select a problem for investigation that meets with the approval of the Program Director or Associate Program Director.

2. Upon selection of a problem for investigation, the trainee must complete a research or investigative project of such quality that it can be published in the WSUHL Report Series.

Formal Coursework (including Data Processing)

CONTENT

Courses at either Wayne State University or the University of Michigan which will contribute to the trainee's qualifications as a medical librarian, e.g., those dealing with biomedical sciences, languages, computer techniques, may be elected by the trainee for one to four hours credit per semester or quarter. The trainee must meet the admission requirements of the institutions (and the specific courses) for a regular degree candidate or special student.

SKILLS AND INSTRUMENTS

The trainee must fulfill the requirements of the course.

PERFORMANCE

The trainee must complete any course elected with satisfactory performance as prescribed by the institution at which he enrolls.